Mechatronic Component Search for Electronic and Fluid Design

15th CADENAS Industry-Forum 2014

Joachim Frank

- Overview Zuken / E3.series

- How does the CADENAS Electronic Product Catalog help in the search for and creation of components for the E-CAD system E³.series?

- Data Transfer Supported using eCl@ss 8 Advanced
  - Who is eCl@ss?

- Using the Data for Schematics, Cabling, Fluidics and Panel Layout

- How does the E-CAD user benefit?

Sales and Support Organization
More Than 30 Offices Worldwide


Zuken GmbH
European
Headquarters

Zuken Inc.
Worldwide
Headquarters

Zuken USA Inc.
North American
Headquarters

Zuken GmbH
European Headquarters
Munich, Germany

Zuken Inc.
Worldwide Headquarters
Yokohama, Japan

Zuken USA Inc.
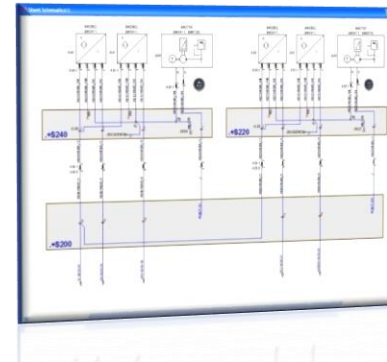North American Headquarters
Westford, Massachusetts

Zuken's Vision

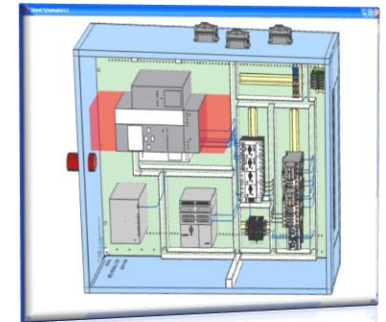Requirements Management to Design Realization

ZUKEN™

E3 series
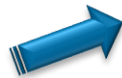
Topology and Functional Planning
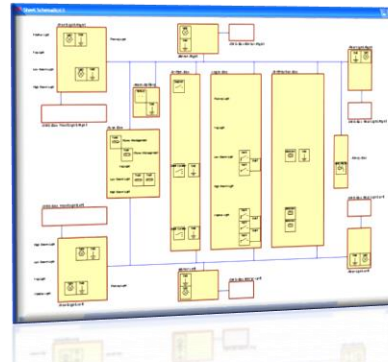
Circuit Engineering

Panel Layout

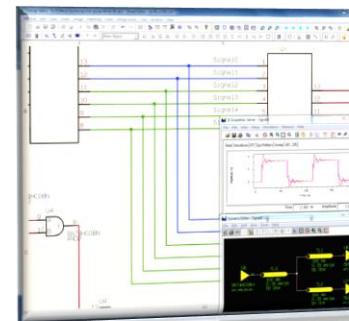Requirements Management

e-PLM Library and Design Data Management

Platform Standardization

System Planning

Circuit Engineering

PCB and Package Layout

Zuken Solution

E^3.series Wiring, Cable, Fluid, Control Systems

ZUKEN

Manufacturing

Panel

Fluid

Cable

**Wiring**

Functional

Topology
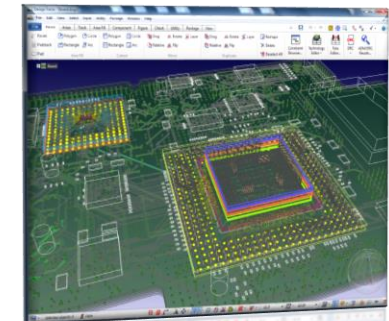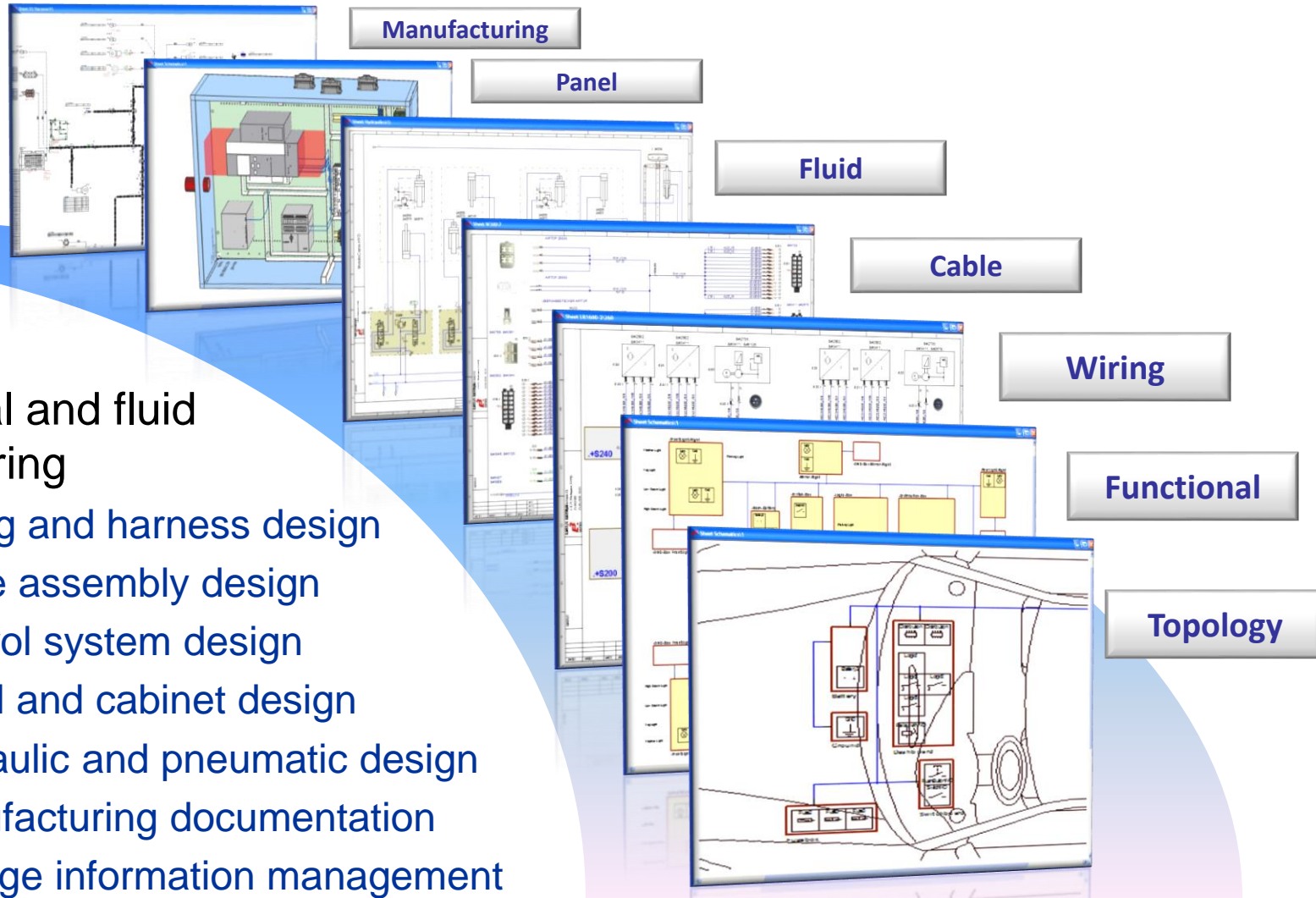
- Electrical and fluid engineering
  - Wiring and harness design
  - Cable assembly design
  - Control system design
  - Panel and cabinet design
  - Hydraulic and pneumatic design
 - Manufacturing documentation
  - Change information management

Why E^3.series?

- Complete electrical and fluid design from concept to manufacturing

- All design information in all phases is kept in sync, reducing errors and rework

- Comprehensive change management ensures nothing slips through the net

- Manufacturing reports linked to real-time design data ensure accuracy

- Collaboration with all aspects of design, linking 3D mechanical data for harness creation and product lifecycle management
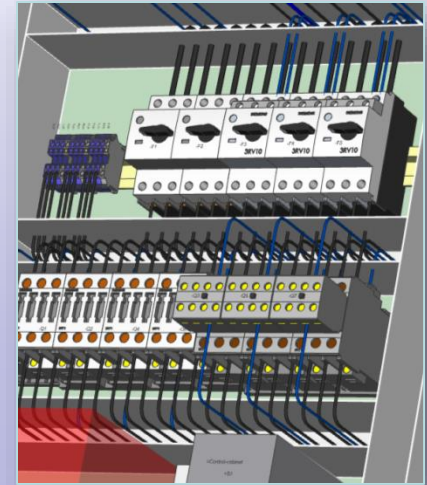
Mechatronic Component Search for Electronic and Fluid Design

- How does the CADENAS Electronic Product Catalog help in the search for and creation of components for the E-CAD system E³.series?

  - Search for components from different M-CAD, E-CAD and Fluid manufacturers in one central location
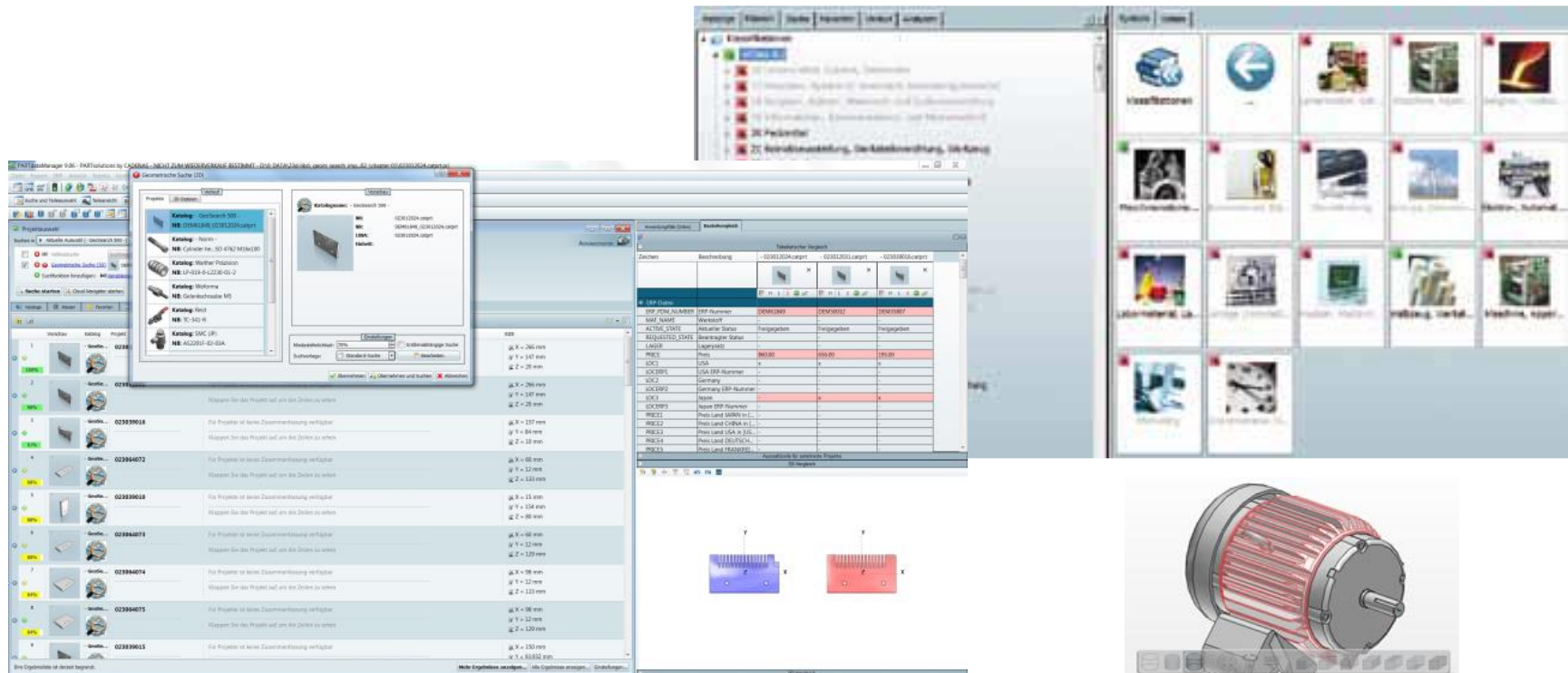
Mechatronic Component Search for Electronic and Fluid Design

- Portal: http://zuken.partcommunity.com
  - Component catalog containing mechatronic components
  - Comfortable search, filter and preview functionality

Web Service

- ## Web Service Integration

    – Integration of CADENAS Web Service planned as plug-in in E³.series

    – E³ interface can be used to search for components directly in the CADENAS Web Service
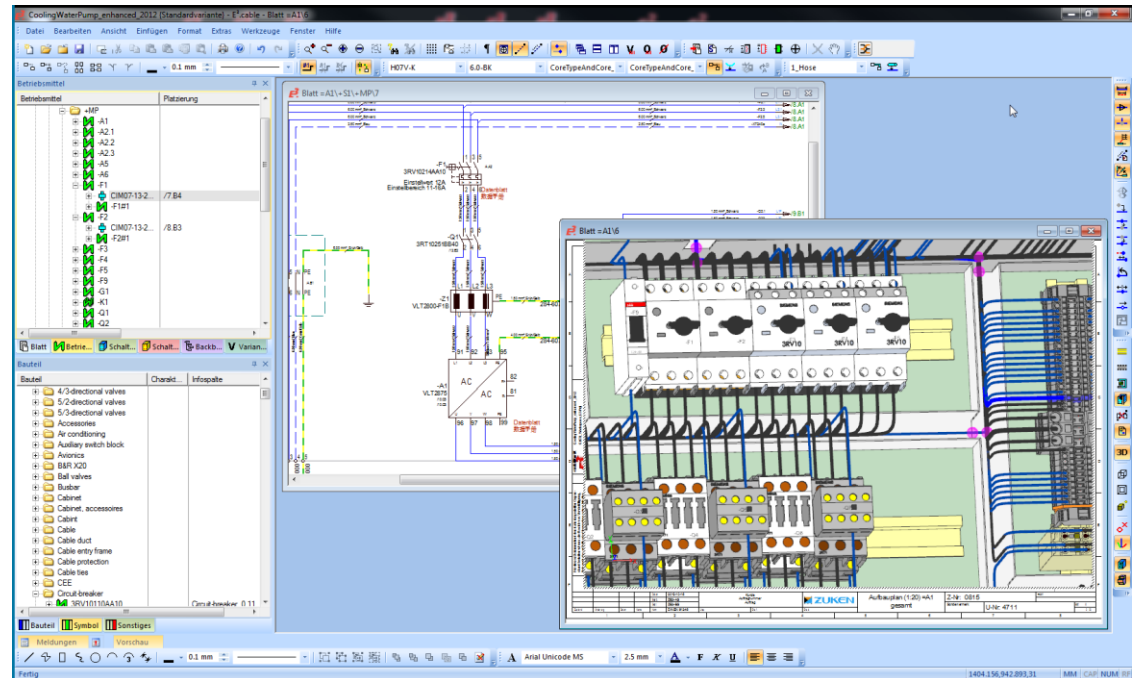
Data Transfer

– CADENAS data independent of the CAD system

– Data transferred using standard eCl@ss format
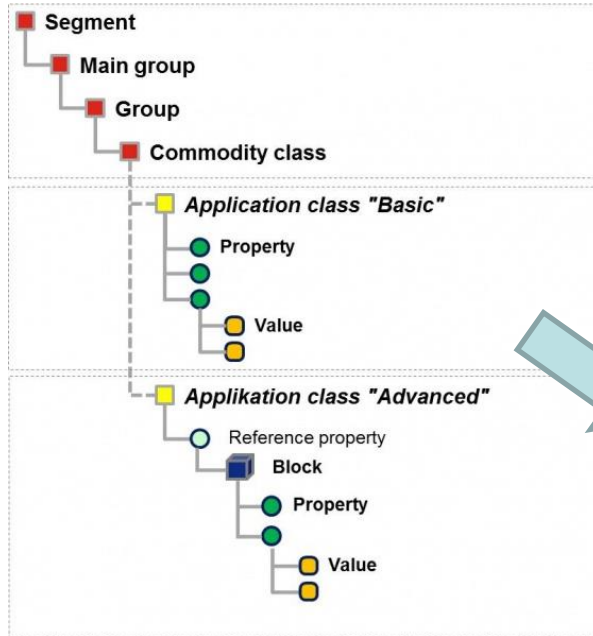
– Automated import in E3.series library

Who is eCl@ss?

The international eCl@ss association, 143 members

Oct 2013, 143 members

www.eclass.eu

eCl@ss Structure

Data Transfer Supported using eCl@ss 8 Advanced

- Starting with eCl@ss Version Advanced 7.1 all CAD data required for an E³.series component library contained therein

- CADENAS exports the eCl@ss XML data

  - The XML format includes all the information necessary for creating a complete E³.series component

  - Additional information (data sheets, graphic data) can also be supplied

- Components contained in the exchange file are imported automatically into the E³.series library

CADENAS Manufacturer Meta Data   eCl@ss XML Data   E³.series Library

- The CADENAS Portal contains different component manufacturer catalogs.

- Each catalog contains numerous different products.

- The E3 user selects one or more products / packages and starts the transfer to E3.series.

- In the background the relevant data (component meta data, symbols, models) of the selected product(s) is transferred to E3.series using a standardized exchange format.

- The components are available to the user and can be used in his/her project.

- Component is described completely for E³.series

  - Component meta data

  - Pins with

    - Position, pin type as well as cross-section / diameter information

  - Assignment of pins between symbols and models

- Example: E³.schematic and E³.panel

Routing

3D model

Schematic symbol

Component data

How does the E-CAD user benefit?

- Without the time-consuming process of searching for the correct commercial, technical, component and symbol data…

  - the user can select components from the component manufacturer E³ library

  - the user can create a customer-specific library tailored to his/her specific needs

  - reduced subsequent reworking

Outlook

- The Development is on going!

- CADENAS is an Exhibitor at ZIW in Ulm.

- Presentation of Prototype from CADENAS Webservice integrated in E3.series

Please visit us in the exhibition area!

The Partner for Success